Name:

## at1113exam: Expand, factor, and solve quadratics (v322)

1. Expand the following expression into standard form.

$$(6x - 5)(3x - 7)$$

$18x^2 - 42x - 15x + 35$

$18x^2 - 57x + 35$

2. Solve the equation.

$$(5x - 3)(2x + 9) \;=\; 0$$

$x = \frac{3}{5}$ $\qquad$ $x = \frac{-9}{2}$

3. Expand the following expression into standard form.

$$(5x + 3)^2$$

$25x^2 + 15x + 15x + 9$

$25x^2 + 30x + 9$

4. Expand the following expression into standard form.

$$(4x - 5)(4x + 5)$$

$16x^2 + 20x - 20x - 25$

$16x^2 - 25$

5. Solve the equation.

$$9x^2 + 49x - 36 \;=\; 2x^2 - 3x - 4$$

$$7x^2 + 52x - 32 = 0$$
$$(7x - 4)(x + 8) = 0$$
$$x = \frac{4}{7} \qquad x = -8$$

6. Solve the equation with factoring by grouping.

$$15x^2 + 18x + 20x + 24 \;=\; 0$$

$$(3x + 4)(5x + 6) = 0$$
$$x = \frac{-4}{3} \qquad x = \frac{-6}{5}$$

7. Factor the expression.

$$16x^2 - 25$$

$$(4x + 5)(4x - 5)$$

8. Factor the expression.

$$x^2 - 4x - 45$$

$$(x - 9)(x + 5)$$